THE PRESIDIO: PRESIDIO FOREST

San Francisco, California

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INTRODUCTION TO THE SITE AS A CULTURAL LANDSCAPE: RECOGNIZING CULTURAL AND NATURAL RESOURCE VALUES

The Presidio of San Francisco, a unit of Golden Gate National Recreation Area, is a cultural landscape that is listed as a national historic landmark. Its historic forest is an important contributing element to this designation. Used continuously as a military garrison for 220 years, the Presidio is unique among U.S. military posts in that it contains buildings and artifacts from its occupation first by Spanish and Mexican troops and then by the U.S. Army from 1846 up to the recent past. More than 500 of the Presidio's 870 buildings are considered significant features. Many of the historic buildings are leased for adaptive use by the Presidio Trust, an independent federal agency established legislatively in 1996 to co-manage the Presidio with the National Park Service.

The Presidio encompasses 1,480 acres on the northern tip of the San Francisco peninsula where San Francisco Bay empties into the Pacific Ocean. Part of the Golden Gate National Recreation Area, the Presidio is one of Bay Area residents' most beloved sites and a familiar landmark to visitors from around the world. Its fog-enshrouded historic forest, stately buildings, and dramatic views of Golden Gate Bridge provide a refuge and cultural landmark amid a densely urbanized setting.

The landscape of the Presidio today also holds many natural values. The land shelters some of San Francisco's last remaining native plant communities, important habitat for 12 rare or endangered plant species, and the last free-flowing stream in the city. Interspersed with these natural areas are clusters of buildings and patches of historic forest.

BACKGROUND

The Presidio's use as a former military post dates back to 1776. The original landscape was a mosaic of rolling hills, tidal marsh, dunes, and coastal bluffs covered with grasses and shrub vegetation. Native trees (oaks and willows) grew in valleys along two creeks and a lake and on leeward hillsides. Long before European occupancy, Native Americans visited the area to collect acorns and shellfish and gather reeds for basketmaking. Spanish soldiers and settlers cut trees for firewood and grazed cattle and horses on the land. The U.S. Army fortified the post beginning in the 1850s with the influx from the Gold Rush, and then, during the Civil War, created a central parade ground, rows of barracks for enlisted men, and an "officers' row." The Presidio was landscaped with ornamental trees and flowers, but the post remained barren and windswept in the eyes of the soldiers stationed there.

In 1883, Major William A. Jones created a plan to transform the Presidio into a parklike, forested reserve. His plan was influenced by noted landscape architects Andrew Jackson Downing and Frederick Law Olmsted, and may have been modeled on experiments in planting and vegetation choice at Golden Gate Park. Major General Irwin MacDowell, who was Major Jones' commanding officer, served on the San Francisco Park Commission. The ties between the afforestation of Golden Gate Park and the Presidio were formed as a result of Major General MacDowell's influence. Trees were planted to stabilize dunes, abate severe erosion, and act as a windbreak. The forest was also planted as a physical manifestation of the changing role of the U.S. Army in the late nineteenth century—from frontier fighters to an institution with international stature, and as a means to impress local residents that the Army would retain its presence in San Francisco. By the end of the century, nearly 450,000 trees had been planted.

During the post-Cold-War effort to reduce the number of military bases nationwide, the Presidio was turned over to the National Park Service in 1994 to be managed as a portion of the Golden Gate National Recreation Area. The Presidio Trust was established legislatively in 1996 as an independent federal agency to co-manage the Presidio, with a board appointed directly by the president of the United States and comprised of individuals representing a variety of interests, including historic preservation, cultural programming, education, and the environment. The Secretary of the Interior or a designee is also a board member. Activities and management by the trust are governed to a large extent by its financial mandate of self-sufficiency. The trust is responsible for managing the interior 80 percent of the Presidio's 1,480 acres, including nearly all of the historic structures. The National Park Service manages the outer 20 percent, including the coastal areas.

Management of the Presidio engenders intense public interest from many sources, including the surrounding community, local environmental organizations, and the nonprofit Golden Gate National Parks Conservancy. Formed in 1981, the conservancy works cooperatively with the National Park Service to protect the Presidio, Muir Woods, the Marin Headlands, Alcatraz, and the Point Bonita Lighthouse.

THE ISSUES

The Presidio's historic forest is made up primarily of three species: blue gum eucalyptus from Australia and Monterey cypress and Monterey pine, both of which are native to California but not to the San Francisco area. These dominant species have cultural value for several reasons. A February 2002 draft "statement of significance" for the Presidio historic forest stated that it was significant for "its association with principles and practical applications of landscape design, including ideas related to aesthetics and parks; for its connection to forestry; for its association with San Francisco community development; and for its association with the Presidio's evolution as a military reservation on a uniquely sited landscape." The historic forest now also provides many natural values, including wildlife habitat, protection of water quality, and protection from strong ocean winds. Many of the trees, however, are nearing the end of their natural life span and will need to be replaced.

Resource managers are currently developing a vegetation management plan (VMP) to address tree replacement within the historic forest. A challenge arose in determining which species, native or nonnative, to plant as replacements, and the amount of diversity to create within replacement stands. Even the definition of natural or native vegetation is in question, because the vegetation at the time of European American settlement was limited to coastal scrub, willows, and oaks. Many natural resource professionals prefer to take a broader view and include trees native to the San Francisco area or to California generally as part of the native plant palette. Cultural resource specialists would like to determine the character-defining features of the historic forest—"the characteristics and features that define and illustrate the significance of the landscape"—and manage the site to maintain those features. These might include characteristics such as tree crown spread, canopy color, height, and individual species selection.

Proponents for creating a more "natural" forest maintain that species diversity would produce a healthier, more stable forest and protect against potential catastrophic loss due to disease. Vegetative diversity would also increase the overall biodiversity of the forest. Some members of the public have expressed the idea that the national park system is not the place for forest "plantations" or the planting of nonnative species.

Others would like to preserve the historic integrity of the forest by replacing mature trees with the same species to the greatest extent possible. One opinion expressed was that creating a diverse forest of native California trees would be creating a "cultural relic" of the year 2000 based on today's values, just as much as the existing historic forest is a "cultural relic" of the late nineteenth century.

A return to natural vegetation for the Presidio would be a return to coastal scrub, which would be viewed by neighboring property owners as reducing property values. It would also disregard the importance of the forest as a windbreak that forms a microclimate for park users, a valuable asset in an urban recreational park setting.

The scope of the VMP addresses all vegetation including native plant communities and the vegetation of the historic designed landscape as well as the historic forest. Other issues needing to be addressed in the VMP include the management of hazard trees, which result from the death of mature trees that become structurally unsound and create safety problems, and the maintenance of viewsheds. In the past, the Army has "topped" trees that blocked views at the request of neighboring property owners. This has resulted in deformed trees along the edge of the park. These neighboring property owners have a long association with the Presidio and are concerned about site management, so it has been important to include them in decisionmaking along with members of the larger San Francisco public.

Many of the buildings within the national historic landmark district are being rented as part of a for-profit leasing program administered by the Presidio Trust. In managing the vegetation in the historic designed landscape, resource managers must work with tenants to help them understand the significance of and reason for maintaining historic plantings and the potential threat posed by introduced species to native vegetation.

METHOD: DEVELOPMENT AND IMPLEMENTATION OF A VEGETATION MANAGEMENT PLAN

The History Leading to the Plan

In 1994, the National Park Service (NPS) published a general management plan amendment (GMPA) to guide management and define future uses of the Presidio. From the GMPA, NPS determined that a vegetation management plan with an environmental assessment was needed to address a number of concerns:

- The historic forest was in decline, with many trees approaching the end of their natural life span.
- Historic viewsheds had been blocked by mature trees, or cleared by "topping," creating deformed trees along the edges of the park.
- The natural areas, which contain some of San Francisco's last remaining native plant communities, were threatened by recreational use or the invasion of nonnative species.
- The horticultural landscape surrounding historic structures needed to be restored in a manner consistent with the Presidio's listing as a national historic landmark.

The intense public interest in management of the Presidio influenced the process for developing the vegetation management plan. Many who grew up in the area are concerned about changes in the appearance of the vegetation within the landscape or changes in recreational use. In consideration of this public interest and concern, NPS decided that the vegetation management plan would be carried out through the standard National Environmental Policy Act review process, allowing formal public comment.

A Process for Public Opinion and Expert Advice

In September 1997, to initiate the scoping phase of the planning process, a brochure with a list of issues and general guidelines was developed and mailed to 1,400 neighboring homeowners, tenants, representatives of agencies and organizations, and others. Public comments were received at two workshops and through returned brochures and letters. The more than one hundred responses generated, along with resource information and legal and policy requirements, were used to shape the management actions, alternatives, and issues addressed in the draft VMP. A public workshop on preliminary issues also contributed to the draft, which was released in July 1999. In addition to public review of the document, NPS and the Presidio Trust held a one-day charrette to solicit technical comments. This interdisciplinary group was composed of academic, public sector, and private sector specialists with backgrounds in landscape architecture, historic landscape preservation, forestry, urban forestry, resource management, horticulture, and conservation biology. The group examined the draft VMP for its integration of natural and cultural landscapes, opportunities for public access and recreational use, and implementation strategies and techniques.

In June 2000, in order to better facilitate the decisionmaking process, the National Park Service and the Presidio Trust issued a staff report that summarized public comments on the draft, identified and analyzed particular issues that had surfaced during the comment period, and clarified points made in the plan. The final plan was published in December 2001.

Plan Objectives

The vegetative management plan divides the Presidio into three zones that reflect what the predominant vegetative complex will be after implementation: the historic forest, native plant communities, and landscape vegetation. Central to the plan is the development of sustainable vegetation that can be managed with less maintenance effort than is currently required.

One objective of the plan is to restore and rehabilitate the historic forest within its original boundaries. Resource managers and planners used 1935 aerial photographs to delineate the boundaries of the historic forest. Their rationale was that the trees appearing in the 1935 photos were those able to survive in the local climate under the given conditions, and therefore determined the maximum extent of the historic forest planted under Major Jones's plan. As historic trees age and die, openings will be created within the forest and replacement trees will be planted. Over time, the historic forest will become more age- and species-diverse, but managers will ensure that the historic species continue to dominate. Several highly photographed signature stands within the forest will be preserved. Scenic vistas will be reopened and maintained, and Monterey cypress that have been "topped" will be replaced with lower-growing species.

Another objective of the plan is the restoration and expansion of native plant communities. Nonnative trees that have "escaped" from the historic forest into native plant communities will be removed to control their encroachment. Habitat for 12 species of rare or endangered plants will be protected and enhanced.

As a third objective, the historic plantings and landscape character will be maintained within the landscape vegetation zone. Replacement plant materials will be selected after consideration of the threats they may pose to native plants through invasive tendencies or hybridization.

Carrying Out the Plan

Revegetation

Revegetation in the Presidio presents its own challenges. Much of the soil is sandy and water is very limited. One site forester suggested that, by following a proposed VMP action and creating a diverse understory of native species in the forest, the competition for water would only be intensified. He has been successful in creating small, sunny openings of about one-third acre by removing several dead or dying mature trees. Neighbors have been opposed to creating openings larger than this. These openings can then be replanted with native plants if the plants are given sufficient irrigation. Although the public would prefer to replant with large, older trees, the forester will use one- to two-foot trees for replacement because of their much greater survival rate.

Plant selection, both native and historic, also creates problems. The same forester believes it unlikely that native tree species will survive if planted as replacement species along ridge tops because of the high winds and salt, but the historic Monterey cypress would fare well in such locations. The historic blue gum eucalyptus tends to be very invasive, so resource managers are looking for a less invasive eucalyptus variety to use in replanting. The Monterey pine found in the historic forest is now infested with pitch pine canker, so a more pest-resistant variety is being sought.

Although the public expressed interest in seeing visual simulations of what different treatment options would look like in the future, resource managers believed this would be based on too much conjecture, given the experimental nature of replanting efforts, and so did not use simulations as part of the planning process.

Creation of a Special Management Zone

Because of the number of rare and endangered species in the southwest corner of the park, this area will be designated as a special management zone in the final VMP. Site-specific planning in this zone will require a long education process for everyone—park neighbors, outside organizations, the National Park Service, and the Presidio Trust—in order to reach a level of comfort shared by all. NPS and the trust will begin the process by assembling a team of specialists that will include, among others, a plant ecologist, an environmental specialist well versed in developing species recovery plans, and staff

experienced in the public participation process. In order to cement community relations, a series of focus workshops will be held in private homes rather than on federal land.

Forest Character Study

A workshop on "Historic Forest Characterization and Treatment" was held in March 2001. The workshop focused on identifying the significant character-defining features of the Presidio's historic forest and was attended by an interdisciplinary 18-member team representing the fields of landscape architecture, forestry, natural resource management, and historic preservation. Participants were provided with information on the historic forest in the context of the overall Presidio vegetation management plan, the forest as a contributing element to the Presidio National Historic Landmark, the history and evolution of the forest and its context in relation to other land reclamation schemes promulgated at the end of the nineteenth century, the ecology and natural resource values of the forest, and the challenges presented in forest management.

The team established a goal for forest management at the site: to preserve the qualities that make the forest a contributing feature of the national historic landmark while also achieving other natural resource, management, public safety, scenic, and recreational objectives. The team also determined that the forest has significance at three scales—regional, landscape, and site—and that three aspects of the forest's history should inform the identification of character-defining features—the original design intent, initial planting, and adaptive management. The team developed a matrix specifying important character-defining features at each of the three scales for use in creating a zoned approach to management, and identified gaps in the data that would need to be filled before developing management treatments.

Mapping will be completed at the three scales to allow for a comparison of values. By working at the same scale as traditional natural resource mapping, multidisciplinary discussions can take place and opportunities for the protection of a mix of values can be identified.

Wind Shear Study

Before initiating major treatments on the Presidio's western edge, resource managers will commission a study of the windbreak function of the historic forest in that area. Compromising the windbreak integrity with major vegetation manipulations would have adverse effects on the entire Presidio.

Education in the Historic Designed Landscape

One difficulty expressed by a member of the cultural resource staff is that, while almost everyone has at least some idea about the meaning of the term "natural resource," the public does not have a clear understanding of the terms "cultural resource" and "cultural landscape." This, they believe, creates a disadvantage when advocating the preservation of the cultural landscape, and will only be overcome through education.

For example, the Presidio Trust's cultural resource staff deals regularly with tenants renting building space in the historic designed landscape who want to improve their landscaping. Because the buildings are within a national historic landmark district, only a limited array of historic plant materials can be used. The cultural resource staff works with tenants to build understanding and appreciation of the value of the historic landscape, and awareness that, historically, the landscape may have had a more stark appearance than what we are used to today.

In addition, tenants in the residential areas were interested in planting backyard vegetable gardens. Because these gardens would not have existed historically, the staff searched for an alternative and located a parcel for a community garden. The community garden serves two additional functions: a greater sense of community results from having people work together, and the garden's single contained location reduces the chance of escaped plants or seeds interfering with native vegetation.